CLAIMS

1. A system for processing incoming wastewater to obtain therefrom an overboard discharge of contaminant free condensate, comprising: heat exchange means for preheating the wastewater; a flash chamber having upper and bottom sections; orifice means connecting the heat exchange means to the flash chamber for flashing conversion of the wastewater preheated in the heat exchange means into water vapor rising into the upper section of the flash chamber and contaminants deposited into the bottom section thereof; filter means within the flash chamber for limiting extraction from the rising water vapor to a condensate; tank means operatively connected to the flash chamber for collecting the condensate extracted through the filtering means; and pump means connected to the tank means for respectively storing the contaminants and effecting said overboard discharge.

2. The system as defined in claim 1, including: pressure responsive control means connected to said pump means for regulating operation thereof to maintain a vacuum pressure within the upper section of the flash chamber and limiting quantities of the condensate and the contaminants collected within the tank means.

3. The system as defined in claim 2, wherein said pump means includes: a vacuum pump connected to the flashing chamber for withdrawal of the rising water vapor from the upper section thereof to establish the vacuum pressure therein inducing rise of the water vapor under control of the pressure responsive control means.

4. The system as defined in claim 3, including: heat absorber means within the bottom section of the flash chamber through which the incoming wastewater is conducted for heating by absorption of heat therefrom into the contaminants; and condenser means connected to the vacuum pump means for condensation of the water vapor by cooling in response to transfer of heat therefrom to provide a condensate of the water vapor.

5. The system as defined in claim 1, wherein said pump means includes: a vacuum pump connected to the flash chamber for withdrawal of the rising water vapor from the upper section thereof to establish the vacuum pressure therein inducing said rise of the water vapor; and trough means within the flash chamber for collecting liquefied water vapor separated from the rising water vapor within the upper section to maintain said vacuum pressure therein.

6. The system as defined in claim 5, further including: cooling means connected to the vacuum pump for condensing the water vapor received therefrom in a superheated and compressed condition into the condensate.

7. The system as defined in claim 6, wherein said cooling means comprises condenser means connected to the vacuum pump for withdrawal of heat from the water vapor in the superheated and compressed condition; and heat absorber means connected to the condenser means for transferring heat to the wastewater to the rising water vapor before supply to the condenser means.

8. The system as defined in claim 7, including: pressure responsive control means connected to said pump means for regulating operation thereof to limit quantities of the condensate and the contaminants collected within the tank means.

9. The system as defined in claim 8, including; a holding tank from which the incoming wastewater is derived; monitoring means connected to the pump means for limiting the overboard discharge to an oil concentrate portion of the collected condensate; and means for returning an oil-reduced content portion of the condensate from the monitoring means to the holding tank.